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(54) Title: POWDEROUS FORMULATIONS OF FAT-SOLUBLE ACTIVE INGREDIENTS

(57) Abstract: Stable powderous formulations containing a fat-soluble active ingredient, e.g., vitamin A, in a matrix of a native lupin protein composition are disclosed.

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A23L1/302 A23L1/303 A23L1/305 A23L1/30 A23L1/275
A23J1/14 A61K7/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A23L A23J A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, EMBASE, BIOSIS

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
E	EP 1 405 572 A (FRAUNHOFER GES FORSCHUNG) 7 April 2004 (2004-04-07) claims 1-3,7,10-21; examples -----	1-12
X	DATABASE WPI Section Ch, Week 199515 Derwent Publications Ltd., London, GB; Class D13, AN 1995-113373 XP002287568 & RU 2 017 434 C1 (GOLOVCHENKO V I) 15 August 1994 (1994-08-15) abstract -----	1,6,8,10
X	US 4 892 727 A (GROLLIER JEAN-FRANCOIS) 9 January 1990 (1990-01-09) column 2, line 7 - line 32 ----- -/-	1,10

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 99/11143 A (BUTTIMER EILEEN TERESA ; CANDY MICHAEL JOHN (GB); FITCHETT COLIN STANL) 11 March 1999 (1999-03-11) cited in the application	10
Y	claims	1-7,11
X	----- KING J ET AL: "FUNCTIONAL PROPERTIES OF LUPIN PROTEIN ISOLATES (LUPINUS ALBUS CV MULTOLUPA)" JOURNAL OF FOOD SCIENCE, INSTITUTE OF FOOD TECHNOLOGISTS. CHICAGO, US, vol. 50, no. 1, 1985, pages 82-87, XP002068531 ISSN: 0022-1147	10
Y	page 83, left-hand column	1-7,11
Y	----- EP 1 106 174 A (HOFFMANN LA ROCHE) 13 June 2001 (2001-06-13) paragraph [0026]; claims -----	1-7,11

INTERNATIONAL SEARCH REPORT

Information on patent family members

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 1405572	A	07-04-2004	EP 1405572 A1	07-04-2004
			WO 2004030472 A1	15-04-2004

RU 2017434	C1	15-08-1994	NONE	

US 4892727	A	09-01-1990	LU 86021 A1	04-02-1987
			BE 905151 A1	23-01-1987
			CA 1275626 C	30-10-1990
			CH 669109 A5	28-02-1989
			DE 3624819 A1	05-02-1987
			FR 2585244 A1	30-01-1987
			GB 2178657 A ,B	18-02-1987
			IT 1196990 B	25-11-1988

WO 9911143	A	11-03-1999	AU 9206298 A	22-03-1999
			CN 1268870 T	04-10-2000
			EP 1009244 A1	21-06-2000
			HU 0003674 A2	28-02-2001
			PL 339131 A1	04-12-2000
			RU 2217979 C2	10-12-2003
			WO 9911143 A1	11-03-1999
			ZA 9807908 A	29-02-2000

EP 1106174	A	13-06-2001	EP 1106174 A1	13-06-2001
			AU 7201500 A	14-06-2001
			BR 0005801 A	27-11-2001
			CA 2328025 A1	09-06-2001
			CN 1300562 A	27-06-2001
			ID 28598 A	14-06-2001
			JP 2001172172 A	26-06-2001
			NO 20006182 A	11-06-2001
			US 2001009679 A1	26-07-2001
